

10 → <?xml version="1.0"?>
 12 → <note date="4/25/01">
 14 → <to>Ann</to>
 <from>Charlie</from>
 <heading>Reminder</heading>
 <body>We are meeting this weekend!</body>
 20 → </note>

Fig. 1

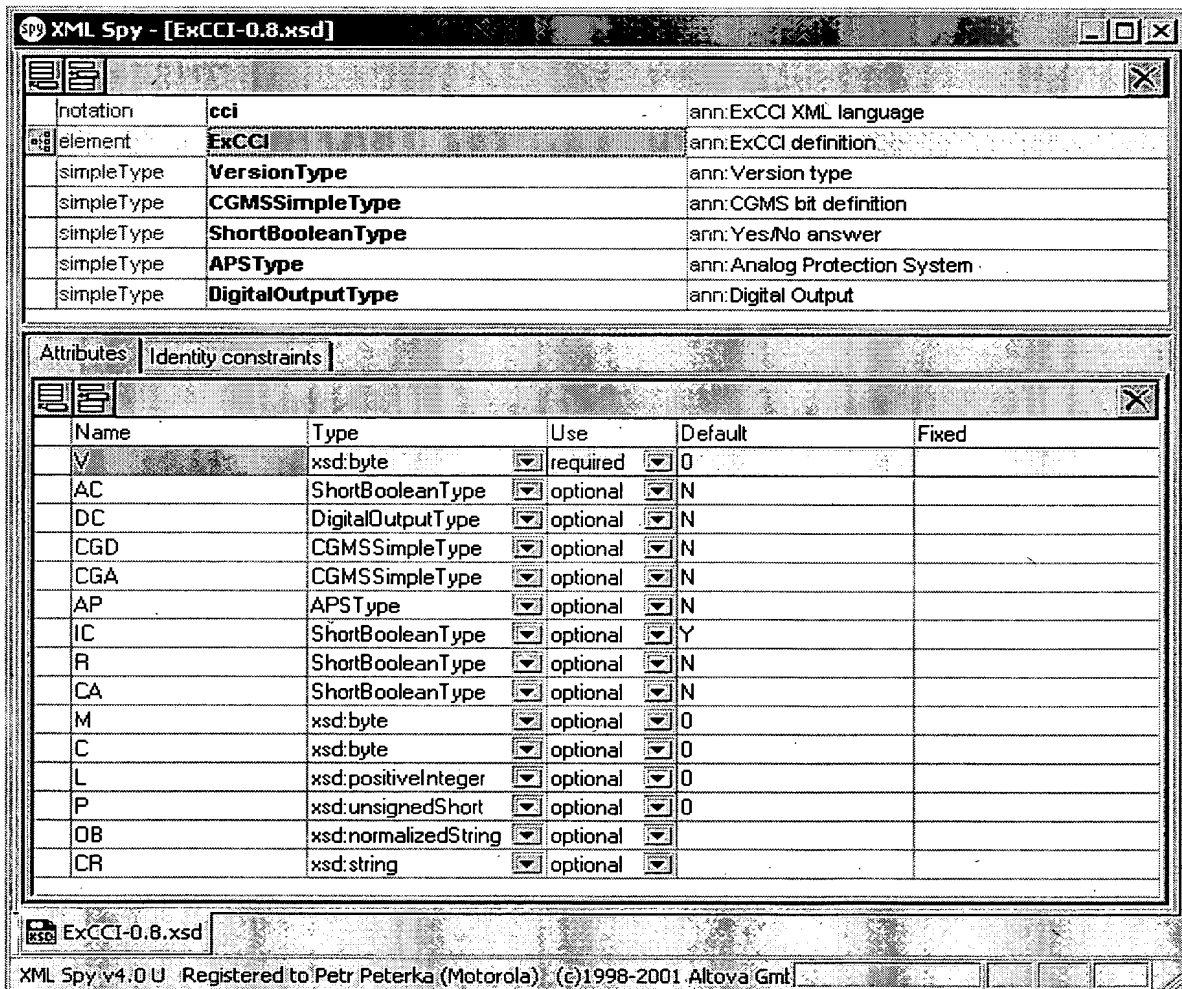


Fig. 2

```

<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XML Spy v4.0 U (http://www.xmlspy.com) by Petr Peterka (Motorola) -->
<xsd:schema targetNamespace="uri:excci" xmlns="uri:excci" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified">
  <xsd:notation name="cci" public="http://ppeterka1/xml">
    <xsd:annotation>
      <xsd:documentation>ExCCI XML language</xsd:documentation>
    </xsd:annotation>
  </xsd:notation>
  <xsd:element name="ExCCI">
    <xsd:annotation>
      <xsd:documentation>ExCCI definition</xsd:documentation>
    </xsd:annotation>
    <xsd:complexType>
      <xsd:attribute name="V" use="required" default="0">
        <xsd:annotation>
          <xsd:documentation>Version</xsd:documentation>
        </xsd:annotation>
        <xsd:simpleType>
          <xsd:restriction base="xsd:byte">
            <xsd:minInclusive value="0"/>
            <xsd:maxInclusive value="7"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:attribute>
      <xsd:attribute name="AC" type="ShortBooleanType" use="optional" default="N">
        <xsd:annotation>
          <xsd:documentation>Analog component output</xsd:documentation>
        </xsd:annotation>
      </xsd:attribute>
      <xsd:attribute name="DC" type="DigitalOutputType" use="optional" default="N">
        <xsd:annotation>
          <xsd:documentation>Digital output</xsd:documentation>
        </xsd:annotation>
      </xsd:attribute>
      <xsd:attribute name="CGD" type="CGMSSimpleType" use="optional" default="N">
        <xsd:annotation>
          <xsd:documentation>Copy Generation Management System for
            Digital signals</xsd:documentation>
        </xsd:annotation>
      </xsd:attribute>
      <xsd:attribute name="CGA" type="CGMSSimpleType" use="optional" default="N">
        <xsd:annotation>
          <xsd:documentation>Copy Generation Management System for
            Analog signals</xsd:documentation>
        </xsd:annotation>
      </xsd:attribute>
      <xsd:attribute name="AP" type="APSType" use="optional" default="N">
        <xsd:annotation>
          <xsd:documentation>Analog Protection System</xsd:documentation>
        </xsd:annotation>
      </xsd:attribute>
      <xsd:attribute name="IC" type="ShortBooleanType" use="optional" default="Y">
        <xsd:annotation>
          <xsd:documentation>Image Constrains for High Definition resolution content transmitted
            over unprotected analog component outputs</xsd:documentation>
        </xsd:annotation>
      </xsd:attribute>
      <xsd:attribute name="R" type="ShortBooleanType" use="optional" default="N">
        <xsd:annotation>
          <xsd:documentation>Redistribution control for retransmission beyond
            the Home</xsd:documentation>
        </xsd:annotation>
      </xsd:attribute>
    </xsd:complexType>
  </xsd:element>
</xsd:schema>

```

Fig. 3

```

<xsd:attribute name="CA" type="ShortBooleanType" use="optional" default="Y">
  <xsd:annotation>
    <xsd:documentation>Copy Control Assertion </xsd:documentation>
  </xsd:annotation>
</xsd:attribute>
<xsd:attribute name="M" use="optional" default="0">
  <xsd:annotation>
    <xsd:documentation>Copy Move Count </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleType>
    <xsd:restriction base="xsd:byte">
      <xsd:minInclusive value="0"/>
      <xsd:maxInclusive value="7"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:attribute>
<xsd:attribute name="C" type="xsd:byte" use="optional" default="0">
  <xsd:annotation>
    <xsd:documentation>Playback Count </xsd:documentation>
  </xsd:annotation>
</xsd:attribute>
<xsd:attribute name="L" type="xsd:nonNegativeInteger" use="optional" default="0">
  <xsd:annotation>
    <xsd:documentation>Longevity Time </xsd:documentation>
  </xsd:annotation>
</xsd:attribute>
<xsd:attribute name="P" use="optional" default="0">
  <xsd:annotation>
    <xsd:documentation>Pause Time </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleType>
    <xsd:restriction base="xsd:unsignedShort">
      <xsd:minInclusive value="0"/>
      <xsd:maxInclusive value="2047"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:attribute>
<xsd:attribute name="D" type="xsd:nonNegativeInteger" use="optional" default="0">
  <xsd:annotation>
    <xsd:documentation>Delayed Start Time </xsd:documentation>
  </xsd:annotation>
</xsd:attribute>
<xsd:attribute name="OB" type="xsd:normalizedString" use="optional">
  <xsd:annotation>
    <xsd:documentation>Optional Bytes </xsd:documentation>
  </xsd:annotation>
</xsd:attribute>
<xsd:attribute name="CR" use="optional">
  <xsd:annotation>
    <xsd:documentation>Copyright Notice information</xsd:documentation>
  </xsd:annotation>
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:pattern value="&#xA9;.*/"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:attribute>
</xsd:complexType>
</xsd:element>
<xsd:simpleType name="VersionType">
  <xsd:annotation>
    <xsd:documentation>Version type</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:byte"/>
</xsd:simpleType>
<xsd:simpleType name="CGMSSimpleType">

```

Fig. 4

```

<xsd:annotation>
  <xsd:documentation>CGMS bit definition</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="xsd:NMTOKEN">
  <xsd:enumeration value="Y">
    <xsd:annotation>
      <xsd:documentation>Copy control not asserted</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="N">
    <xsd:annotation>
      <xsd:documentation>Copying is not permitted</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="0">
    <xsd:annotation>
      <xsd:documentation>No further copying is permitted</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
  <xsd:enumeration value="1">
    <xsd:annotation>
      <xsd:documentation>One generation of copying is permitted</xsd:documentation>
    </xsd:annotation>
  </xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="ShortBooleanType">
  <xsd:annotation>
    <xsd:documentation>Yes/No answer</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:NMTOKEN">
    <xsd:enumeration value="Y"/>
    <xsd:enumeration value="N"/>
  </xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="APSType">
  <xsd:annotation>
    <xsd:documentation>Analog Protection System</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:NMTOKEN">
    <xsd:minInclusive value="0"/>
    <xsd:maxInclusive value="3"/>
    <xsd:enumeration value="N">
      <xsd:annotation>
        <xsd:documentation>Analog copy protection is not used</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="P">
      <xsd:annotation>
        <xsd:documentation>PSP is on and split color burst is off</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="2">
      <xsd:annotation>
        <xsd:documentation>PSP is on and 2-line split color burst is on</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="4">
      <xsd:annotation>
        <xsd:documentation>PSP is on and 4-line split color burst is on</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="DigitalOutputType">
  <xsd:annotation>

```

Fig. 5



```

    <xsd:documentation>Digital Output</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:NMTOKEN">
    <xsd:enumeration value="N">
      <xsd:annotation>
        <xsd:documentation>No digital signal output allowed</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="U">
      <xsd:annotation>
        <xsd:documentation>Only uncompressed digital signal output allowed</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="C">
      <xsd:annotation>
        <xsd:documentation>Only compressed digital signal output allowed</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="Y">
      <xsd:annotation>
        <xsd:documentation>Both compressed and uncompressed digital signal
          outputs allowed</xsd:documentation>
      </xsd:annotation>
    </xsd:enumeration>
  </xsd:restriction>
</xsd:simpleType>
</xsd:schema>

```

Fig. 6

```

<ExCCI xmlns="uri:excci"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://ppeterka1/xml ExCCI-0.8.xsd"
  V="1"
  CGA="Y"
  DC="U"
  AC="N"
  AP="P"
  C="5"
  CA="Y"
  CGD="0"
  IC="N"
  L="10000"
  M="0"
  OB="any"
  P="30"
  R="Y"
  D="6300000000"
  CR="MyStudio"/>

```

← 110
 ← 120

Fig. 7



```

<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XML Spy v4.0 U (http://www.xmlspy.com) by Petr Peterka (Motorola) -->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified"
attributeFormDefault="unqualified" version="1.0">
  <xs:notation name="ExCCI" public="http://ppeterka1/xml">
    <xs:annotation>
      <xs:documentation>Extended CCI expressed in XML</xs:documentation>
    </xs:annotation>
  </xs:notation>
  <xs:element name="Rights">
    <xs:annotation>
      <xs:documentation>Restrictions on handling of saved copy of this content and restrictions on
redirecting received content to device analog/digital outputs.</xs:documentation>
    </xs:annotation>
    <xs:complexType>
      <xs:sequence>
        <xs:element name="AnalogCopy" type="AnalogCopyProtectionType" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Restrictions for analog copy and output </xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="DigitalCopy" type="DigitalCopyProtectionType"
minOccurs="0" maxOccurs="2">
          <xs:annotation>
            <xs:documentation>Restrictions for digital copy and output </xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="Playback" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Playback rules for stored content</xs:documentation>
          </xs:annotation>
          <xs:complexType>
            <xs:sequence>
              <xs:element name="PlayBackCount" type="PlayBackCountType" minOccurs="0">
                <xs:annotation>
                  <xs:documentation>The number of times that a recording of content may
be played</xs:documentation>
                </xs:annotation>
              </xs:element>
              <xs:element name="DelayedStart" type="xs:dateTime" minOccurs="0">
                <xs:annotation>
                  <xs:documentation>Start Time defines the starting date and time at
which content may begin to be played and viewed</xs:documentation>
                </xs:annotation>
              </xs:element>
              <xs:element name="Rental" type="RentalType" minOccurs="0">
                <xs:annotation>
                  <xs:documentation>rental period in minutes</xs:documentation>
                </xs:annotation>
              </xs:element>
              <xs:element name="PauseTime" type="xs:duration" minOccurs="0">
                <xs:annotation>
                  <xs:documentation>max number of minutes of pause time allowed
per occasion</xs:documentation>
                </xs:annotation>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="Copyright" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
    <xs:attribute name="Version" type="xs:byte" use="required"/>
    <xs:attribute name="Redistribution" type="ShortBooleanType" use="optional" default="N">
      <xs:annotation>
        <xs:documentation>Retransmission beyond home domain</xs:documentation>
      </xs:annotation>
    </xs:attribute>
  </xs:element>

```

Fig. 8

```

    </xs:attribute>
  </xs:complexType>
</xs:element>
<xs:complexType name="RentalType">
  <xs:annotation>
    <xs:documentation>Rental restrictions</xs:documentation>
  </xs:annotation>
  <xs:choice>
    <xs:element name="EndTime" type="xs:dateTime" minOccurs="0"/>
    <xs:element name="Interval" type="xs:duration" minOccurs="0"/>
  </xs:choice>
</xs:complexType>
<xs:complexType name="AnalogCopyProtectionType">
  <xs:annotation>
    <xs:documentation>Analog copy protection attributes</xs:documentation>
  </xs:annotation>
  <xs:attribute name="ComponentOutput" type="ShortBooleanType" use="optional" default="N"/>
  <xs:attribute name="NumberOfCopies" type="CopyControlType" use="optional" default="NOCOPY"/>
  <xs:attribute name="PseudoSyncPulse" type="ShortBooleanType" use="optional" default="Y"/>
  <xs:attribute name="SplitColorBurst" type="SplitColorBurst_LinesType" use="optional" default="4"/>
  <xs:attribute name="ImageConstrain" type="ShortBooleanType" use="optional" default="Y"/>
  <xs:attribute name="MoveCount" type="xs:short" use="optional" default="0"/>
</xs:complexType>
<xs:complexType name="DigitalCopyProtectionType">
  <xs:annotation>
    <xs:documentation>Digital copy protection attributes</xs:documentation>
  </xs:annotation>
  <xs:attribute name="Compression" type="CompressionType" use="required"/>
  <xs:attribute name="OutputAllowed" type="ShortBooleanType" use="optional" default="N"/>
  <xs:attribute name="NumberOfCopies" type="CopyControlType" use="optional" default="NOCOPY"/>
  <xs:attribute name="MoveCount" type="xs:short" use="optional" default="0"/>
</xs:complexType>
<xs:simpleType name="CopyControlType">
  <xs:annotation>
    <xs:documentation>Copy count type</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:NMTOKEN">
    <xs:enumeration value="UNLIMITED"/>
    <xs:enumeration value="NOCOPY"/>
    <xs:enumeration value="ONEGENERATION"/>
    <xs:enumeration value="NOMORE"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="SplitColorBurst_LinesType">
  <xs:annotation>
    <xs:documentation>Analog copy protection attributes</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:NMTOKEN">
    <xs:enumeration value="N">
      <xs:annotation>
        <xs:documentation>split color burst is off</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="2">
      <xs:annotation>
        <xs:documentation>2-line split color burst is on</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="4">
      <xs:annotation>
        <xs:documentation>4-line split color burst is on</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="ShortBooleanType">

```

Fig. 9



```

<xs:annotation>
  <xs:documentation>Yes/No answer</xs:documentation>
</xs:annotation>
<xs:restriction base="xs:NMTOKEN">
  <xs:enumeration value="Y"/>
  <xs:enumeration value="N"/>
</xs:restriction>
</xs:simpleType>
<xs:simpleType name="CompressionType">
  <xs:annotation>
    <xs:documentation>Compressed vs. uncompressed digital format</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:NMTOKEN">
    <xs:enumeration value="COMPRESSED"/>
    <xs:enumeration value="UNCOMPRESSED"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="PlayBackCountType">
  <xs:annotation>
    <xs:documentation>Number of times the content can be played back</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:positiveInteger"/>
</xs:simpleType>
</xs:schema>

```

Fig. 10

```

<Rights xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="http://ppeterka1/xml/EXCCI-XML-1.3.xsd"
  Version="0">
  <AnalogCopy ComponentOutput="Y"
    NumberOfCopies="1"
    ImageConstrain="Y"/>
  <DigitalCopy Compression="UNCOMPRESSED"
    OutputAllowed="Y"
    NumberOfCopies="ONEGENERATION"/>
  <Playback>
    <PlayBackCount>3</PlayBackCount>
    <DelayedStart>2002-11-20T00:00:00</DelayedStart>
    <Rental>
      <Interval>P3D</Interval>
    </Rental>
    <PauseTime>PT30M</PauseTime>
  </Playback>
  <Copyright>MyStudio</Copyright>
</Rights>

```

Fig. 11



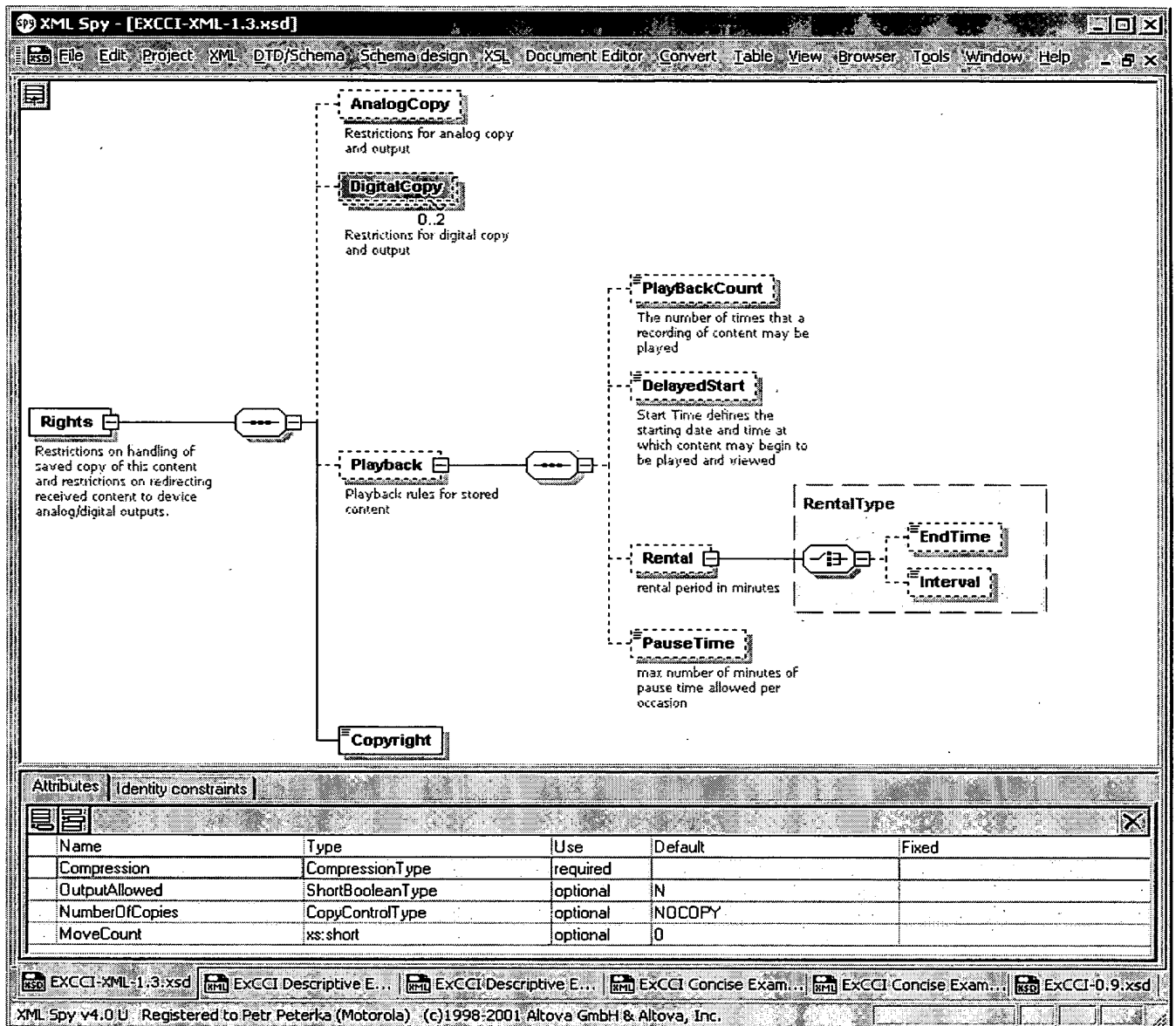


Fig. 12

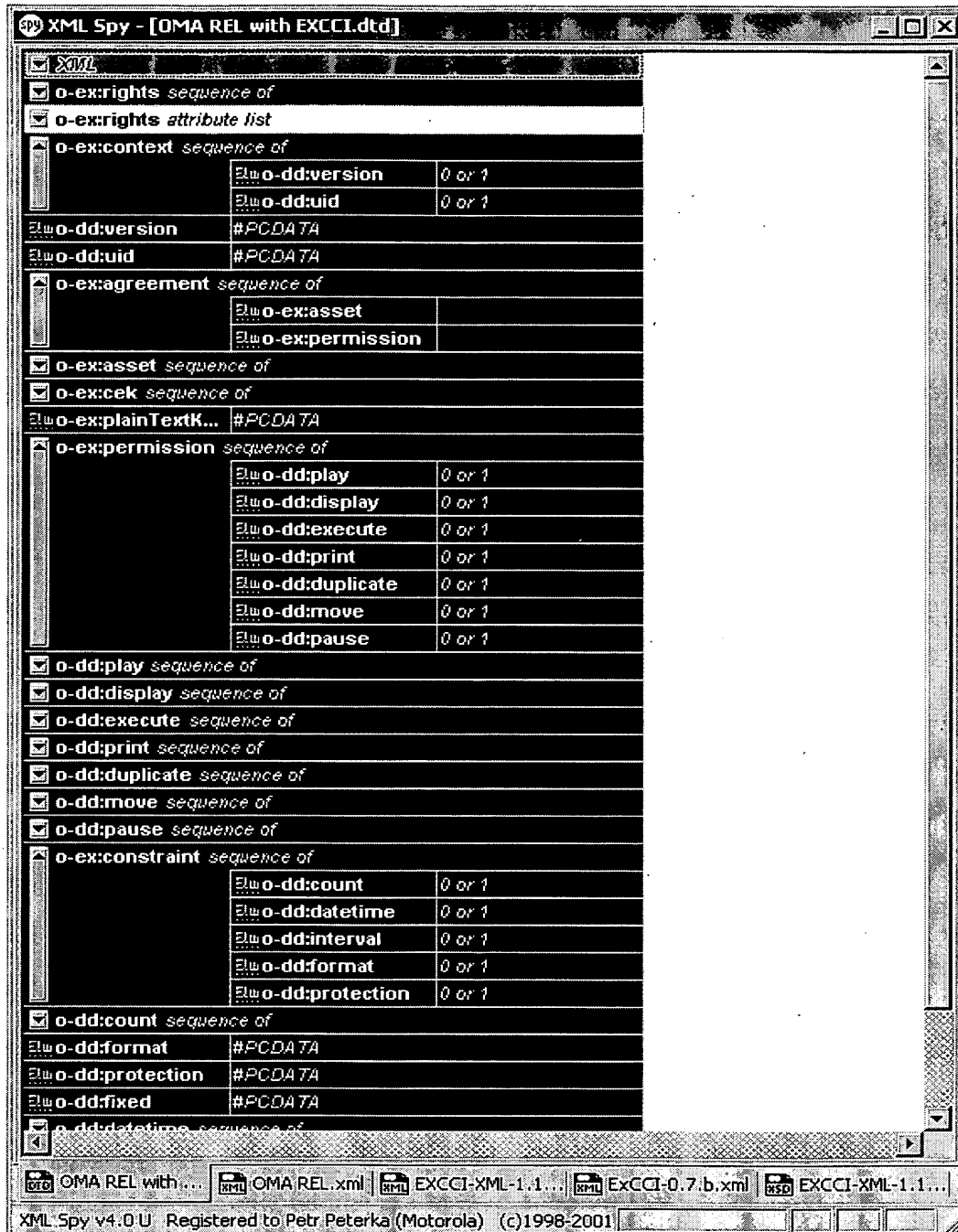


Fig. 13

BEST AVAILABLE COPY

```

<?xml version="1.0" encoding="UTF-8"?>
<!ELEMENT o-ex:rights (o-ex:context, o-ex:agreement)>
<!--ATTLIST o-ex:rights
      xmlns:o-ex CDATA #FIXED "http://odrl.net/1.1/ODRL-EX"
      xmlns:o-dd CDATA #FIXED "http://odrl.net/1.1/ODRL-DD"
-->
<!ELEMENT o-ex:context (o-dd:version?, o-dd:uid?)>
<!ELEMENT o-dd:version (#PCDATA)>
<!ELEMENT o-dd:uid (#PCDATA)>
<!ELEMENT o-ex:agreement (o-ex:asset, o-ex:permission)>
<!ELEMENT o-ex:asset (o-ex:context, o-ex:cek?)>
<!ELEMENT o-ex:cek (o-ex:plainTextKey)>
<!ELEMENT o-ex:plainTextKey (#PCDATA)>
<!ELEMENT o-ex:permission (o-dd:play?, o-dd:display?, o-dd:execute?, o-dd:print?,
                           o-dd:duplicate?, o-dd:move?, o-dd:pause?, o-dd:give?)>
<!ELEMENT o-dd:play (o-ex:constraint*)>
<!ELEMENT o-dd:display (o-ex:constraint*)>
<!ELEMENT o-dd:execute (o-ex:constraint*)>
<!ELEMENT o-dd:print (o-ex:constraint*)>
<!ELEMENT o-dd:duplicate (o-ex:constraint*)>
<!ELEMENT o-dd:move (o-ex:constraint*)>
<!ELEMENT o-dd:pause (o-ex:constraint*)>
<!ELEMENT o-dd:give (o-ex:constraint*)>
<!ELEMENT o-ex:constraint (o-dd:count?, o-dd:datetime?, o-dd:interval?,
                           o-dd:format?, o-dd:quality?, o-dd:protection?)>
<!ELEMENT o-dd:count (o-dd:fixed)>
<!ELEMENT o-dd:format (#PCDATA)>
<!ELEMENT o-dd:protection (#PCDATA)>
<!ELEMENT o-dd:quality (#PCDATA)>
<!ELEMENT o-dd:fixed (#PCDATA)>
<!ELEMENT o-dd:datetime (o-dd:start?, o-dd:end?)>
<!ELEMENT o-dd:start (#PCDATA)>
<!ELEMENT o-dd:end (#PCDATA)>
<!ELEMENT o-dd:interval (#PCDATA)>

```

Fig. 14

```

<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XML Spy v4.0 U (http://www.xmlspy.com)-->
<!DOCTYPE o-ex:rights SYSTEM "C:\Documents and Settings\ppeterka\My
Documents\Projects\IPCA&DRM\XML\ODRL\OMA REL with EXCCI.dtd">
<o-ex:rights xmlns:o-ex="http://odrl.net/1.1/ODRL-EX" xmlns:o-dd="http://odrl.net/1.1/ODRL-DD">
  <o-ex:context>
    <o-dd:version>0</o-dd:version>
  </o-ex:context>
  <o-ex:agreement>
    <o-ex:asset>
      <o-ex:context>
        <o-dd:uid>MyMovie.rtp</o-dd:uid>
      </o-ex:context>
    </o-ex:asset>
    <o-ex:permission>
      <o-dd:play>
        <o-ex:constraint>
          <o-dd:count>
            <o-dd:fixed>3</o-dd:fixed>
          </o-dd:count>
          <o-dd:datetime>
            <o-dd:start>08-15-2002</o-dd:start>
            <o-dd:end>08-20-2002</o-dd:end>
          </o-dd:datetime>
        </o-ex:constraint>
      </o-dd:play>
      <o-dd:duplicate>
        <o-ex:constraint>
          <o-dd:count>
            <o-dd:fixed>unlimited</o-dd:fixed>
          </o-dd:count>
          <o-dd:format>analog</o-dd:format>
          <o-dd:quality>600-pixels</o-dd:quality>
          <o-dd:protection>2-line-split</o-dd:protection>
        </o-ex:constraint>
        <o-ex:constraint>
          <o-dd:format>digital uncompressed</o-dd:format>
        </o-ex:constraint>
      </o-dd:duplicate>
      <o-dd:move>
        <o-ex:constraint>
          <o-dd:count>
            <o-dd:fixed>1</o-dd:fixed>
          </o-dd:count>
        </o-ex:constraint>
      </o-dd:move>
      <o-dd:pause>
        <o-ex:constraint>
          <o-dd:interval>30</o-dd:interval>
        </o-ex:constraint>
      </o-dd:pause>
    </o-ex:permission>
  </o-ex:agreement>
</o-ex:rights>

```

Fig. 15